

ENHANCEMENT OF INTERMEDIATE MASS DIMUONS IN NUCLEUS-NUCLEUS COLLISIONS AT THE CERN-SPS.

NA50 Collaboration

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Abstract

Dimuon production in p-A, S-U and Pb-Pb collisions at the CERN-SPS has been studied by the NA38 and NA50 collaborations. A 4-Dimensional unfolding method has been applied to the data to study the intermediate mass dimuon region between 1.6 and 2.5 GeV/c² (IMR). It is shown that the superposition of conventional processes, namely open charm and Drell-Yan, extrapolated from p-A distributions is unable to describe the overproduction observed in the ion data. Medium effects or D-mesons rescattering cannot account for the experimental results. Two possible explanations of the observed excess, namely an enhancement of charm production or the presence of thermal dilepton radiation, are discussed.
